INFORMATION TECHNOLOGY INDUSTRY COUNCIL

November 21, 1995

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

Re: MM Docket No. 87-268 -- Comments of the Information Technology Industry Council

Dear Mr. Caton:

I am enclosing an original and ten copies of comments by the Information Technology Industry Council (ITI) in response to MM Docket No. 87-268, Advanced Television Systems and Their Impact Upon the Existing Television Broadcasting Service.

Sincerely,

Fiona Branton

Fiona Branton
Director, Government Relations and Regulatory Counsel
Information Technology Industry Council

Enclosures

cc: Roy Stewart, Chief, Mass Media Bureau
Barbara A. Kriesman, Chief, Video Services Division, Mass Media Bureau
Saul Shapiro, Mass Media Bureau
Dr. Robert Pepper, Office of the Chairman
Mark Corbitt, Office of the Chairman

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Advanced Television Systems	)	MM Docket No. 87-268
and Their Impact Upon the	)	
Existing Television Broadcast Service	)	

FOURTH FURTHER NOTICE OF PROPOSED RULE MAKING
AND THIRD NOTICE OF INQUIRY

COMMENTS OF THE INFORMATION TECHNOLOGY INDUSTRY COUNCIL

The Information Technology Industry Council (ITI)[1] hereby files these comments in response to the Fourth Further Notice of Proposed Rulemaking and Third Notice of Inquiry (NPRM) in the above-captioned proceeding.[2]

Introduction And Summary

ITI welcomes the Commission's issuance of the Notice, and the accompanying opportunity to address the Commission on issues relating to the rules that should govern the transition to digital television. As suppliers of information technology, and ultimately, as users of the information

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[1] ITI, formerly known as the Computer and Business Equipment Manufacturers Association (CBEMA), is a leading trade association of manufacturers and vendors of computers, computing devices, office equipment, and information services.

[2] See Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, Fourth Further Notice of Proposed Rule Making and Third Notice of Inquiry, MM Docket No 87-268, FCC 95-315 (released Aug. 9, 1995) [hereinafter "Notice"].

superhighway, ITI member companies have a large stake in the development and success of the National Information Infrastructure (NII) and Global Information Infrastructure (GII). ITI believes that Advanced Television (ATV) will play an important role in the NII by providing a digital transmission medium for consumers and information providers. ITI's members are developing and deploying new services and products that will bring to homes, businesses, and schools new information, education, entertainment, business, and communications capabilities. Digital television technologies will provide an important means of delivering these new applications to consumers. ITI therefore believes the transmission standard that will shortly be proposed to the Commission by the Advisory Committee on Advanced Television (ACATS) will be an important part of a diverse and flexible NII. ITI urges the Commission to promptly adopt and implement a standard for ATV along with policies that will encourage the use of digital broadcast technologies to stimulate the development and deployment of innovative and beneficial NII applications.

I. The ATV Standard and Progressive Scan

ITI believes that if ATV is to be an integral part of the NII and GII, it must be fully interoperable with the computer and information technology industries. The ATV transmission standard that will shortly be proposed to the Commission by the ACATS currently contains transmission formats using both interlace and progressive scan techniques. The information technology industry uses progressive scan in virtually all of its monitors. The reason is simple: progressive scan is necessary to display text and images in a fashion that does not irritate the viewer. Interlace scanning, on the other hand, creates flickering and motion artifacts that are noticeable at close viewing distances, rendering interlace scan undesirable for computer and imaging applications. Progressive scan also produces a better video picture than an interlace scan monitor of the same number of lines. Indeed, early reports of the proposed ATV standard indicate that a 720 line progressively scanned picture is of similar quality to a 1080 line interlace-scanned picture.

In 1993, ITI and other information technology associations advised ACATS of the importance of an all-progressive scan ATV system for computer

compatibility. The ACATS responded by including both progressive scan and interlace formats in the proposed standard.[3] However, ITI believes that a truly interoperable ATV system will require the exclusive use of progressive scan. Accordingly, ITI believes that the Commission should establish an ATV transmission standard based on an all-progressive system so that when broadcasters begin using the spectrum specifically allocated for digital television, they would use only progressive scanning formats. Of course, during the transition to a digital system, broadcasters may continue to use interlace on their current NTSC channels.

ITI recognizes the current investment in interlace and the painstaking process that the Grand Alliance and ACATS have undertaken to produce an ATV standard.[4] Nevertheless, ITI believes that ATV must be designed for the future. Including interlace in the ATV standard will perpetuate inferior technology and delay the convergence of technologies.

II. Receiver Standards

ITI strongly endorses the principles of interoperability, flexibility, and extensibility in the selection of advanced digital television standards, with the objective of building an information infrastructure that best integrates television and computer technologies. The use of progressive scan transmission formats will best enable this integration. If the Commission chooses to include interlace scanning formats in the transmission standard, it is essential that advanced television receivers be designed to receive both interlace and progressive scan transmissions. This is consistent with the principle established in the All Channel Receiver Act,[5] which was enacted in 1962, and authorizes the Commission to require that television receivers be capable of adequately receiving all frequencies allocated to television broadcasting. This served the public interest by ensuring that consumers who purchased televisions were able to receive all programs broadcast. ITI

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[3] Three of four of the HDTV formats and seven of the ten SDTV formats use progressive scan.

[4] Any transition to new technology involves additional investment. Broadcasters will have to invest in new equipment to implement ATV regardless of whether it includes interlace. ITI believes that the cost of investment in new digital technologies can be minimized by going directly to an all-progressive system.

[5] 47 U.S.C. 303(s).

believes that adopting a similar requirement for the transition from NTSC to ATV will help ensure an evolution to a digital, all-progressive television system that reduces the risk of consumers being left with obsolete technology. While market demand will likely drive manufacturers to offer television receivers that receive all of the digital broadcast formats, ITI believes it is in the interest of both the public and the information technology industry to ensure a smooth and rapid transition to an ATV system by requiring that televisions receive all transmission formats.

In developing regulations regarding the ability of televisions to receive all ATV signals, the Commission should endeavor to develop regulations that are flexible enough to evolve with technology and with changing broadcast transmission formats.

While a requirement to receive all formats will benefit purchasers of digital television sets, ITI believes it is not necessary to require that television receivers display all formats in "high definition" quality and screen size. Decisions about how to display the signals that are received should be left to the marketplace in order to ensure optimal consumer choice.

III. Cable Retransmission

The Notice states that under the Commission's proposed revised simulcast requirement, programming on the NTSC and ATV channels might not be duplicative. The Notice requests comments on whether, during the transition from NTSC to ATV, ATV programming should be subject to must carry requirements. ITI believes that consumer interests will be best served by requiring cable operators to rebroadcast both NTSC and ATV over-the-air programming. To minimize burdens on consumers, such retransmission should be made using identical transmission standards as over-the-air ATV so that cable and over-the-air programming can be accessed via the same protocol.

IV. Broadcast Requirements

The Notice requests comment on whether the Commission should require broadcasters to provide a minimum amount of High Definition Television (HDTV) during the transition to an all-digital system and, if so, how much. The Commission also requests comment on the extent to which broadcasters should be allowed to use their ATV spectrum for uses other than free, over-the-air broadcasting.[6]

ITI believes that the Commission should encourage broadcasters to provide some minimum amount of HDTV each day, and that this should include broadcast during prime-time hours, although ITI does not take a position on a specific number of hours. A minimum broadcast requirement will help speed the transition to the ultimate all-digital television system by ensuring that consumers are exposed to the benefits of the new technology. In addition, the requirement will encourage broadcasters to develop innovative programming for HDTV and further stimulate the market for ATV.

As long as the broadcasters are required to provide some minimum amount of HDTV programming each day, ITI supports allowing broadcasters to use the spectrum provided for ATV to provide other broadcast-like services, including data transmission and other ancillary and supplementary uses, during the remainder of the day. Consumers will find these ancillary and supplementary services most useful if the standard that is developed for data packet transmission is consistent with the ATV standard. ITI urges the Commission to encourage the broadcasters to work with the Information Infrastructure Standards Panel (IISP) to ensure that ATV technology is consistent with data packet standards.

V. Spectrum Recovery

In its Second Report/Further Notice, the Commission put broadcasters on notice that when ATV becomes the prevalent medium, they will be required

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6 See Notice, ¶ 23.

to surrender a 6 MHz channel and cease broadcasting in NTSC.[7] ITI agrees with that approach and believes it should remain the policy for transition to ATV. In the current Notice, the Commission notes that it "remain[s] committed to the recovery of spectrum."[8] ITI applauds this commitment. We strongly believe that spectrum should be recovered as quickly as feasible, consistent with the needs of consumers, market demands, and the availability of new technologies. We urge the Commission to implement policies that will encourage the recapture of spectrum as soon as possible, including in fewer than the currently-planned 15 years if feasible.

The availability of spectrum for other uses will promote the development of wireless networks, both licensed and unlicensed, that will enable the deployment of a wide variety of computing applications that are the foundation of the NII, such as education and health care applications. Wireless technologies can provide a way to serve public communications and computing needs that cannot be met with alternative technologies or that are too costly with wired communications networks. Wireless networks will be particularly beneficial for rural areas and other areas that are difficult to serve with wired technologies. They will also, as a result of their greater flexibility and lower cost than wired networks, enable a plethora of inexpensive applications within institutions, such as schools, hospitals, libraries, nonprofit organizations, and businesses, that could not otherwise afford the investment required to access communications networks. Reallocation of spectrum currently allocated to television broadcasting upon the transition to an all-digital broadcast system will serve as a public good through which a variety of communications needs can be met. Wireless systems will be especially important in the development of the NII, as they will be a means of ubiquitous, affordable, flexible networking capabilities facilitating many applications, including mobile applications.

The Notice further notes that "spectrum will be of greater value if available in large contiguous nationwide blocks."[9] ITI agrees and urges the

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7 Second Report/Further Notice, at 3353.

8 Notice at ¶ 58.

9 Notice at ¶ 58.

Commission to recover spectrum in contiguous blocks to the extent possible. Contiguous spectrum is important for nomadic applications. Because the devices used for nomadic applications need to be small and lightweight, the power level limitations of the devices prevents them from being able to switch from one bandwidth to another in the midst of an application without disruption in service. A nationwide band of spectrum for uses other than television broadcast would support nomadic applications, providing an additional transmission path for many different computer-based applications.

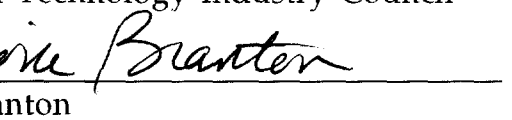
VI. Protocols for Data Transmission

Many new uses of ATV are made possible by ongoing, rapid technological advances in personal computers. The delivery of packets of digital data through ATV spectrum will create a multitude of new consumer applications beyond just that of one-way, passive, video displays. It is important that any ATV standards include the ability for reprogrammable computers/TV receivers to receive data transmissions as well as video transmissions.

Conclusion

As new NII services and products are developed that take advantage of new computing and communications technologies, including digital television, the Commission should adopt policies that promote consumer choice, equipment compatibility, and the ability to take advantage of new and emerging technologies. Policies implemented at this early stage of digital television's development must be flexible to allow their evolution with technological advancement and to meet changing consumer needs.

Respectfully submitted,
Information Technology Industry Council

By: 

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Dated: November 21, 1995